

# LABORATORY ANALYSIS



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**COPELAND(EMERSON CLIMATE TECHNOLOGIES)**  
3101 W MILITARY HWY BUILDING 2, (SALTILLO PLANT)  
SALTILLO, AM  
MX  
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Department **DIECAST**  
Equipment No. **TANQUE QUENCH 02-CELDA 02 (X0005)**  
System **Quenching Fluid**  
Oil Type **ENGINEERED LUBRICANTS ENCOOL SOL-6465GF-ND-XL-RO (525 GAL)**

## Diagnosis

{not applicable} There is no indication of any contamination in the quenching fluid. Tertiary amine content is out of range.

## Sample Information

|                     |           |                    |             |             |
|---------------------|-----------|--------------------|-------------|-------------|
| Lab Number          | New       | <b>2404-00452</b>  | 2311-00629  | 2309-00969  |
| Date of Sample      | (Typical) | <b>03 Apr 2024</b> | 26 Oct 2023 | 22 Sep 2023 |
| Oil Added           |           | <b>UNK</b>         | UNK         | UNK         |
| Last Drain Date     |           | --                 | --          | --          |
| Last Filter Service |           | --                 | --          | --          |
| Sample Point        |           | ---                | ---         | ---         |
| Sample Status       |           | <b>ABNORMAL</b>    | SEVERE      | NORMAL      |

## RATIO PER REFRACTOMETER

|                  |           |                |         |         |
|------------------|-----------|----------------|---------|---------|
| Refract. Reading |           | <b>2.5</b>     | 2.7     | 3.0     |
| Refract. Model   |           | <b>DIGITAL</b> | DIGITAL | DIGITAL |
| Refract. Ratio   | oil:water | <b>11:1</b>    | 10:1    | 9:1     |

## ALKALINE RESERVE (ADDITION OF DEIONIZED WATER IS PREFERRED)

|                  |  |            |     |     |
|------------------|--|------------|-----|-----|
| Alkaline Reserve |  | <b>120</b> | 123 | 119 |
|------------------|--|------------|-----|-----|

## pH (ASTM E-70)

|             |            |                 |          |          |
|-------------|------------|-----------------|----------|----------|
| pH          | Scale 0-14 | <b>9.6</b>      | 9.4      | 9.0      |
| Ratio Rec'd | oil:water  | <b>AS REC'D</b> | AS REC'D | AS REC'D |

## HARDNESS (mg/L CaCO3)

|                  |      |             |       |       |
|------------------|------|-------------|-------|-------|
| Hardness (CaCO3) | mg/L | <b>47.2</b> | 182.1 | 241.6 |
| Grains           |      | <b>2.8</b>  | 10.7  | 14.2  |

## TOTAL AMINE

|          |           |             |      |      |
|----------|-----------|-------------|------|------|
| Total    | mmol/gram | <b>0.13</b> | 0.17 | 0.14 |
| Tertiary | mmol/gram | <b>0.08</b> | 0.08 | 0.09 |
| Primary  | mmol/gram | <b>0.05</b> | 0.09 | 0.05 |

## CIC CORROSION

|               |   |                 |          |          |
|---------------|---|-----------------|----------|----------|
| CIC Dilution  |   | <b>AS REC'D</b> | AS REC'D | AS REC'D |
| CIC Corrosion | % | <b>0.0</b>      | 0.0      | 0.0      |

## GRAVIMETRIC, mg/L

|               |      |             |      |      |
|---------------|------|-------------|------|------|
| Filter Micron | μ    | <b>0.45</b> | 0.45 | 0.45 |
| Gravimetric   | mg/L | <b>6</b>    | 12   | 8    |

## BACTERIA COUNT (Class Range 0 to 6)

|                |           |          |   |   |
|----------------|-----------|----------|---|---|
| Bacteria Class | Scale 0-6 | <b>0</b> | 1 | 0 |
|----------------|-----------|----------|---|---|

## FUNGUS COUNT (Class Ranges: Yeast 0 to 4/Mold 0 to 3)

|             |           |          |   |   |
|-------------|-----------|----------|---|---|
| Yeast Class | Scale 0-4 | <b>0</b> | 0 | 0 |
| Mold Class  | Scale 0-3 | <b>0</b> | 3 | 0 |

## ENERGY DISPERSIVE XRF (\*BELOW MINIMUM DETECTION LIMIT)

|                   |     |   |   |   |
|-------------------|-----|---|---|---|
| ppm Chlorine (Cl) | ppm | * | * | * |
|-------------------|-----|---|---|---|

## Contamination

|       |  |            |     |     |
|-------|--|------------|-----|-----|
| Water |  | <b>NEG</b> | NEG | NEG |
|-------|--|------------|-----|-----|

Customer Id: EMESAL  
Sample No.: EN24040452  
Lab Number: 24040452  
Test Package: TEST



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# FUEL REPORT

